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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,315

04/19/2004

Jun Hirabayashi

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01/03/2008

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EXAMINER

SARPONG, AKWASI

ART UNIT

PAPER NUMBER

4178

MAIL DATE

DELIVERY MODE

01/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,315	<b>Applicant(s)</b> HIRABAYASHI ET AL.	
	<b>Examiner</b> AKWASI M. SARPONG	<b>Art Unit</b> 4178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/31/2006</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seto (5875044) in view of Loce (5696845).

**Claim 1**, Seto discloses an exposure deciding method for deciding laser exposure when image formation is performed by an electro photographic process (Col. 9 Lines 35-39, Fig. 1), comprising:

an expansion step of expanding image data at a resolution higher than actual resolution of an output apparatus (Col. 9 Lines 40-45);

a resolution conversion step of subjecting high-resolution data, which is the result of expansion at said expansion step, to a resolution conversion to the actual resolution of the output (Col. 12 Lines 9-19, Fig. 7) apparatus;

an image formation step of forming an image represented by image data, which has undergone the resolution conversion performed at said resolution conversion step, based upon the laser exposure that has been decided at said exposure decision step (Col. 6 Lines 50-56, Fig. 1 EI D5).

Seto does not disclose an exposure decision step of deciding laser exposure when image formation is performed in such a manner that density of prescribed image data will be the same before and after image formation;

Loce discloses an exposure decision step of deciding laser exposure when image formation is performed in such a manner that density of prescribed image data will be the same before and after image formation (Col. 12 Lines 40-45). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Seto's electro photographic process to further include where the density of the input image is the same with the output image as taught by Loce so that an enhanced printed output will be produced by the printer as disclosed by Loce in Col. 5 Lines 30-39.

**Claim 2**, Seto (Col. 16 Lines 7-20, Fig. 7 El. 17) in view of Loce (Col. 12 Lines 35-55) discloses a method wherein said resolution conversion step includes averaging the high-resolution data using a matrix of a predetermined size and subjecting the actual resolution of the output apparatus to a resolution conversion.

**Claim 3**, Seto (Col. 14 lines 35-45) in view of Loce (Col. 12 Lines 35-46, Fig. 11 El. 472) discloses a method wherein said resolution conversion step includes averaging the high-resolution data using a matrix in which boxes of a matrix of a predetermined size have been shifted by one-half pixel.

**Claim 4**, Seto in view of Loce discloses a method wherein said exposure decision step includes forming a prescribed pattern that will take on a different image formation state despite the fact that image pattern is the same originally, measuring the density of the prescribed pattern formed, ( Loce: Col. 10, lines 62-67, Fig. 10, El. 264 and 266) and (Loce: Col. 11 Lines 1-4) and deciding the laser exposure in such a manner that the density of the prescribed pattern will be the same before and after image formation (Loce: Col. 12 Lines 40-45).

**Claim 5**, Seto in view of Loce (Loce: Col. 12 Lines 40-65, Fig. 11) discloses a method wherein said exposure decision step includes forming a prescribed pattern that is repeated at fixed intervals, measuring the density of the prescribed pattern formed and deciding the laser exposure based upon the result of measurement in such a manner that a difference in average density will not develop between the prescribed patterns.

**Claim 6**, Seto discloses an image forming apparatus for deciding laser exposure when image formation is performed by an electro photo graphic process (Col. 9 Lines 35-39, Fig. 1), comprising:

expansion means for expanding image data at a resolution higher than actual resolution of an output apparatus (Col. 9 Lines 40-45);

resolution conversion means for subjecting high-resolution data, which is the result of expansion by said expansion means, to a resolution conversion to the actual resolution of the output apparatus (Col. 12 Lines 9-19, Fig. 7) ;

image formation means forming an image represented by image data, which has undergone the resolution conversion performed by said resolution conversion means, based upon the laser exposure that has been decided by said exposure decision means (Col. 6 Lines 50-56, Fig. 1 EI D5).

Seto does not disclose an exposure decision means of deciding laser exposure when image formation is performed in such a manner that density of prescribed image data will be the same before and after image formation;

Loce discloses an exposure decision means of deciding laser exposure when image formation is performed in such a manner that density of prescribed image data will be the same before and after image formation (Col. 12 Lines 40-45). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Seto's electro photographic process to further include a set where the density of the input image is the same with the output image as taught by Loce so that an enhanced printed output will be produced by the printer as disclosed by Loce in Col. 5 Lines 30-39.

**Claim 7**, Seto (Col. 14 Lines 40-45, Fig. 12) in view of Loce (Col. 2 Lines 43-67, Fig. 2) discloses a program for causing a computer to execute the exposure deciding method set forth in claim 1.

**Claim 8**, Seto in view of Loce (Col. 7 Lines 20-33, Fig. 3 and 4) discloses a computer-readable recording medium storing the program set forth in claim 7.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKWASI M. SARPONG whose telephone number is (571)270-3438. The examiner can normally be reached on Monday-Friday 8:00 am-5:00pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HAI Tran can be reached on 571-272-7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4178

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMS

12/16/2007

/Hai Tran/

Supervisory Patent Examiner, Art Unit 4178